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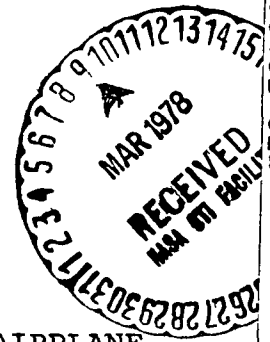
For Release

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IMMEDIATE

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NASA TO TEST WINGLET AIRFOILS ON AIR FORCE TANKER AIRPLANE

A U.S. Air Force jet cargo/tanker aircraft has been delivered to NASA's Dryden Flight Research Center, Edwards, Calif., where it will be modified and flown to study a new concept which could provide significant fuel savings.

Winglets, 2.7-meter (9-foot) long airfoil sections, will be attached to the wingtips of a KC-135 aircraft. The winglets are expected to improve the performance of the aircraft in cruise flight by approximately 8 per cent.

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(NASA-News-Release-78-25) NASA TO TEST
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According to the Air Force Flight Dynamics Laboratory, this performance improvement could result in an annual fuel savings of 11.9 million liters (45 million gallons), based upon 1975 utilization rates, for the KC-135 aircraft series.

Additional NASA studies indicate that the winglet concept also could be beneficial to existing medium-weight civil transport aircraft.

The winglet concept was developed in wind tunnels at NASA's Langley Research Center, Hampton, Va., by Dr. Richard T. Whitcomb, who also designed the Supercritical Wing.

The winglets are 0.6 meters (2 feet) wide at the tip and 1.8 m (6 ft.) wide at the base and weigh almost 68 kilograms (150 pounds) each. They will be constructed of aluminum and installed on outer wing panels by the Boeing Co. under an Air Force contract estimated at \$3 million.

The outer panels with the winglets will be installed on the KC-135 by the Dryden Center.

It will be possible to vary the incidence and cant angle of the winglets between flights to permit studying their effectiveness at various positions.

Following instrumentation of the KC-135, a series of baseline flights will be flown beginning in late 1978. The winglet should be installed in early 1979 and first flights in the joint NASA-USAF program are scheduled soon after installation is completed.

Data from flights with the winglets will be compared with data from baseline flights to determine the winglets' effectiveness.

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